

What Is Claimed Is:

1 A method for forming an automobile
2 interior molded panel comprising a rigid substrate, a
3 cover layer, and a localized composite pad, the method
4 comprising:

5 providing a molding tool having a first mold
6 and a second mold, the first mold having a cavity;

7 inserting a cover layer between the first mold
8 and the second mold;

9 placing a composite pad comprising an
10 impregnable layer and a non-impregnable layer in the
11 cavity of the first mold, wherein the non-impregnable
12 layer is facing the second mold and the impregnable
13 layer is abutting the first mold;

14 introducing resin into the molding tool; and

15 solidifying the resin to form the molded panel
16 whereby the non-impregnable layer of the composite pad
17 is located adjacent the cover layer.

1 2. The method of claim 1 wherein the
2 impregnable layer of the composite pad is spaced from
3 the cover material when the molded panel is formed.

1 3. The method of claim 1 wherein the
2 impregnable layer is made of reticulated material having
3 an amount of pores per inch of about 1 to 100 and a foam
4 density of about 1.5 to 2.5 pcf.

1 4. The method of claim 1 wherein the non-
2 impregnable layer is made of non-reticulated elastomeric
3 foam material.

1 5. The method of claim 1 wherein the non-
2 impregnable layer has a foam density of 1.0-6.0 pcf.

1 6. The method of claim 1 wherein the non-
2 impregnable layer is bonded to the impregnable layer
3 before the composite pad is placed in the cavity.

1 7. The method of claim 1 wherein the resin
2 is introduced into the molding tool under a pressure of
3 about 500 - 1600 pcf.

1 8. The method of claim 1 wherein the molded
2 panel has a Shore A hardness of about 45-70 when
3 measured according to ASTM No. D2240 along a line that
4 intersects the composite pad.

1 9. The method of claim 1 wherein the
2 impregnable layer is impregnated with resin during and
3 after formation of the molded panel.

1 10. The method of claim 3 wherein the non-
2 impregnable layer is made of non-reticulated elastomeric
3 foam material.

1 11. The method of claim 10 wherein the
2 substrate comprises polypropylene and the impregnable
3 layer and non-impregnable layer comprise polyurethane.

1 12. The method of claim 10 wherein the
2 composite pad has a Shore A hardness of about 35-75 when
3 measured according to ASTM No. D2240.

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13. The method of claim 1 wherein the
composite pad has a thickness of about 5-30 mm.

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14. An automobile interior molded panel
comprising:
 a rigid substrate;
 a composite pad comprising a non-impregnable
and an impregnable layer; and
 a cover skin disposed over and bonded to the
substrate and the pad.

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15. The panel of claim 14 wherein the cover
skin is bonded to at least the portion of the non-
impregnable layer of the pad and a portion of the
substrate.

16. The panel of claim 15 wherein the
impregnable layer is made of reticulated material having
an amount of pores per inch of about 1 to 100 and a foam
density of about 1.5 to 2.5pcf.

17. The panel of claim 16 wherein the non-
impregnable layer is made of non-reticulated elastomeric
foam material.

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18. The substrate of claim 17 wherein the
rigid substrate is formed throughout the impregnable
layer upon solidification of the resin.

19. The panel of claim 18 wherein the
composite pad has a Shore A hardness of about 35-70 when
measured according to ASTM No. D2240.

1 20. The panel of claim 19 wherein the molded
2 panel has a Shore A hardness of about 45-70 when
3 measured according to ASTM No. D2240 while measuring
4 along a line that intersects the composite pad.

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